

5/9/3

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Low-power mechanisms angular accelerations capacitive transducer - has electrostatic elastic element in form of two coaxial two-sector electrodes mounted on shafts

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Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Main IPC	Week
SU 583397	A	19771210					197843 B

Priority Applications (No Type Date): SU 2307128 A 19760104

Abstract (Basic): SU 583397 A

Tranducer can be used for measurement of angular accelerations in low power mechanisms, and its weight and size are reduced owing to simplification of its design, achieved by making the electrostatic elastic element in the form of two coaxial two-sector electrodes (4, 5) mounted on shafts between two disk electrodes (5), the element serving as an inertia mass and as one of the electrodes of displacement transducer.

Supply voltage generates an electrostatic field between electrodes (1, 2) which passes through the rotor. This forces the electrode (5) to take a position electrode (4). When rotor rotates at a uniform speed, electrode (5) rotates synchronously with electrode (4).

In case of acceleration and owing to inertia forces, electrode (5) is displaced w.r.t. the electrode (4) by an angle proportional to the rigidity of the electrical mechanism. As a result capacitance between them changes.

Title Terms: LOW; POWER; MECHANISM; ANGULAR; ACCELERATE; CAPACITANCE; TRANSDUCER; ELECTROSTATIC; ELASTIC; ELEMENT; FORM; TWO; COAXIAL; TWO; SECTOR; ELECTRODE; MOUNT; SHAFT

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